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ABSTRACT

This study analyzed retention and graduation rates of entering minority group freshmen from the 1989-96 cohort at 232 diverse colleges and universities using data from the Consortium for Student Retention Data Exchange (CSRDE), which consistently have indicated that graduation rates are lower for underrepresented minority groups of blacks, Hispanics, and American Indians. Findings are reported for: first-time freshman population, fall 1989 to fall 1996; retention rate by race; graduation rate by race; graduation rates and institutional selectivity; classification of CSRDE institutions by selectivity; enrollment of underrepresented minorities; and graduation rates of underrepresented minorities and institutional selectivity. Major findings indicated that: (1) minority participation in higher education increased at a faster pace than participation by whites; (2) retention and graduation rates were static over time; (3) retention and graduation rates were lower for the underrepresented minority groups of blacks, Hispanics, and American Indians; (4) minority enrollment tended to concentrate disproportionately in the less selective institutions; and (5) graduation rates were higher for the more selective institutions. Results for other studies of educational attainment of underrepresented minorities are reviewed in terms of precollege academic preparedness; high school completion rates; proficiency in reading, mathematics, and science; college admissions test scores; and college enrollment rates. (Contains 23 references.) (DB)

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Baccalaureate Degree Attainment and Precollege Academic Preparedness of Underrepresented Minorities

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Baccalaureate Degree Attainment and Precollege Academic Preparedness of Underrepresented Minorities

Abstract

Retention and graduation rates of the 1989 to 1996 entering freshman cohorts in 232 diverse colleges and universities of the Consortium for Student Retention Data Exchange consistently indicated that graduation rates were lower for the underrepresented minority groups of blacks, Hispanics and American Indians. The literature of student retention pointed to precollege characteristics and academic preparedness of individual students as major factors for the success of their college career. This paper provides an overview of a series of educational statistics from grade school through college for the purpose of deriving a better understanding of the educational attainment of underrepresented minorities. The analysis included data relating to academic proficiency, high school completion, college enrollment and baccalaureate degree completion.

Baccalaureate Degree Attainment and Precollege Academic Preparedness of Underrepresented Minorities

Background

One of the major changes in higher education over the last two decades has been the growth of racial diversity in the student population. From 1980 to 1995, college enrollment grew by 18 percent from 12.1 million to 14.3 million. Minority enrollment increased at a much faster rate than whites; the growth rate was 79 percent for minorities compared with only 5 percent for whites. Consequently, the representation of minorities rose from 16 percent of the total higher education enrollment to 25 percent. In terms of head count, minority college students increased from 1.95 million to 3.5 million[1], with more than half of the growth occurring in the last five of the fifteen years (NCES, Table 207, 1997).

Recent demographic trends in public elementary and secondary schools suggest that the presence of minorities in higher education will continue to increase. In 1995, minorities constituted 35 percent of the public school enrollment, an increase of five percentage points from 1986 (NCES, Table 45, 1997). As this trend carries forward to the future college population, it is estimated that, by the year 2000, more than 30 percent of the college enrollment will be minorities. Population projections further suggest that the growth of minority population will continue to outpace that of whites. The 1990 census report indicated that minorities made up one-fourth of the national population. The U.S. Census Bureau further projected that, by the year 2050, nearly half of the population will be minorities (Day, 1996).

The dramatic increase of college minority population in the last two decades has generated much attention to the retention and graduation rates of various racial ethnic groups. With the exception of Asian Americans, levels of educational attainment, income and other measures of social well-being are lower for minorities than whites (ACE, 1988). Thus, blacks, Hispanics and American Indians are often referred to as the "underrepresented minorities." As the increases in minority enrollment continue into the next millennium, the success of minorities in educational attainment will take on added importance. The purpose of this paper is to assess minority participation in higher education beginning with the annual report on college retention and graduation rates of 232 colleges and universities in the Consortium for Student Retention Data Exchange (CSRDE).

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[1] From 1980 to 1995, the minority enrollment increases by race were: blacks, 1.11 to 1.47 million; Hispanics, 472 thousand to 1.09 million; American Indians, 84 to 131 thousand; and Asian Americans, 286 to 797 thousand.

The 1997-98 CSRDE Report

The 1997-98 CSRDE report is the product of a collaborative effort of the CSRDE members. Data included in this report were provided by 232 colleges and universities. Their characteristics range from public to private, from large to small, from highly selective to liberal in admission requirements and from doctoral to baccalaureate in degree programs. Approximately 34 percent of the 1.15 million 1996 first-time freshmen enrolled in four-year public and private institutions were included in the report. However, the representation was much higher for public than private institutions. The report included 48 percent of the first-time freshmen enrolled in public institutions and only 7 percent in private institutions.

The First-Time Freshman Population, Fall 1989 to Fall 1996

On average, approximately 368,400 new freshmen entered the 232 CSRDE institutions each year. From 1989 to 1996, the overall first-time freshman enrollment decreased by 1 percent, from 388,972 to 384,011, while enrollment of underrepresented minorities increased by 21 percent, from 45,693 to 55,193. Consequently, the representation of underrepresented minorities rose from 11.7 percent of the 1989 new freshman population to 14.4 percent in 1996. Progress in minority participation was made by all racial subgroups.

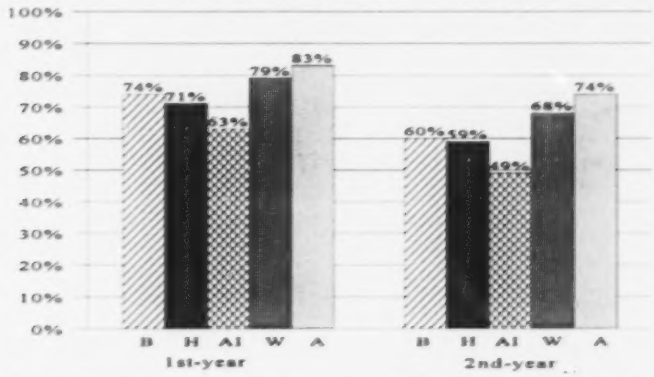
Retention Rates by Race

Similar to results reported in many other national studies (Cope, 1978; Tinto, 1982; Astin, 1993), retention rates in these 232 institutions have been fairly static over time. In general, there were modest increases in retention rates for all racial subgroups while the overall first-year retention rates for the eight first-time freshman cohorts, from 1989 to 1996, stayed within the range of 77 percent to 79 percent. Second-year retention rates for the seven cohorts, from 1989 to 1995 were in the range of 67 percent to 68 percent.

Complete six-year tracking data for the 1989-91 cohorts indicated that 78 percent of the first-time freshmen continued to the second year and 67 percent progressed to the third year of college. Significant differences existed among the subgroups of students by race. Retention rates were lower for each of the underrepresented minority groups when compared with their white and Asian counterparts. After the first year, the retention rates were 74 percent for blacks, 71 percent for Hispanics and 63 percent for American Indians, compared with 79 percent for whites and 83 percent

for Asians. After the second year, the gap in retention rates grew even wider with 60 percent of the blacks, 59 percent of the Hispanics and 49 percent of the American Indians persisted to the third year of college, compared with 68 percent for whites and 74 percent for Asians (Figure 1). When tracking progressed toward the fifth year, 48 percent of the blacks, 50 percent of the Hispanics and 40 percent of the American Indians continued or graduated, compared with 61 percent for whites and 65 percent for Asians.

Figure 1: Retention Rates by Race
1989-1991 Freshman Cohorts

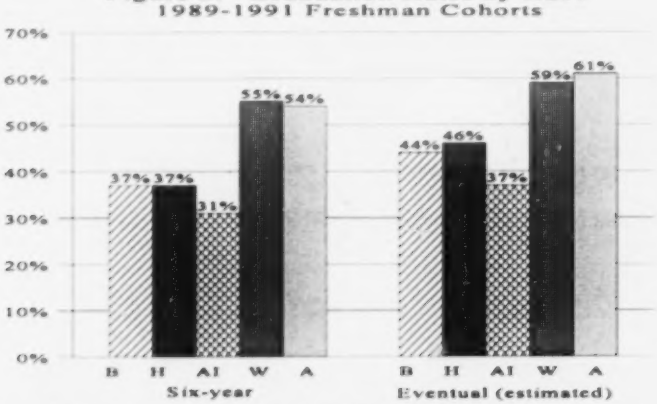


B - Blacks, H - Hispanics, AI - American Indians, W - Whites, A - Asians

Graduation Rates by Race

As a consequence of higher dropout rates for the underrepresented minorities, smaller percentages of these students completed their baccalaureate degrees. Six-year graduation rates for the 1989-91 cohorts were 37 percent for blacks, 37 percent for Hispanics, 31 percent for American Indians, compared with 55 percent for whites and 54 percent for Asians with an overall graduation rate of 53 percent.

Figure 2: Graduation Rates by Race
1989-1991 Freshman Cohorts



B - Blacks, H - Hispanics, AI - American Indians, W - Whites, A - Asians

A higher percentage of the minorities continued to the seventh year; the percentages were 8 percent for blacks, 10 percent for Hispanics, 7 percent for American Indians, compared with 5 percent for whites and 8 percent for Asians. Since these students were very likely to graduate, the eventual graduation rates were estimated at 44 percent for blacks, 46 percent for Hispanics, 37 percent for American Indians, compared with 59 percent for whites and 61 percent for Asians and an overall rate of 57 percent for the 1989-91 cohorts (Figure 2).

Graduation Rates and Institutional Selectivity

Institutional selectivity is an important factor in student retention (Cope, 1978; Lenning, 1982; Noel & Levitz, 1983); the more selective institutions tend to have higher student retention rates. Saupe (1988) analyzed data from 27 public research universities and found that admission standards were significant predictors of first-year retention and six-year graduation rates. Astin (1993) observed that "more than half of the variance in institutional retention rates can be attributed directly to differences in the kinds of students who initially enroll, rather than to any differential institutional *effect*."

As an illustration, the ACT Institutional Data Profile (ACT, 1994) reported that graduation rates decreased with each decline in the level of institutional selectivity[2]. The five-year graduation rates for public doctoral institutions ranged from 69 percent for highly selective to 53 percent for selective, 42 percent for traditional and 38-40 percent for liberal and open admission institutions.

In a comparison based on data in seven research universities in the "Big Eight," Smith (1992) concluded that students in the higher ACT test score brackets had higher graduation rates. The six-year graduation rates of the 1983-87 first-time freshmen in the study group ranged from 76 percent for the subgroup with an ACT average of 31 or higher to 32 percent for the subgroup with an ACT average below 16. The intermediate six-year graduation rates were 68 percent, 59 percent and 46 percent for the subgroups of ACT 26-30, 21-25 and 16-20 respectively (Figure 3).

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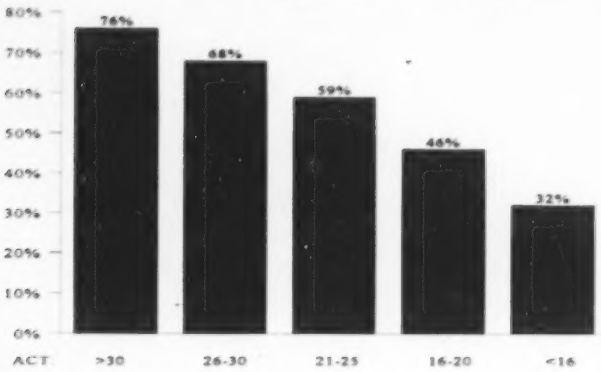
[2] The definitions for various levels of selectivity were: highly selective--the majority of accepted freshmen were ranked in the top 10 percent of high school graduating class; selective--the majority of accepted freshmen were ranked in the top 25 percent of high school graduating class; traditional--the majority of accepted freshmen were ranked in the top 50 percent of high school graduating class; liberal--some freshmen were from the lower half of high school graduating class; open--all high school graduates were accepted up to the limit of capacity.

Figure 3: Graduation Rates and ACT Scores in Seven of the "Big Eight" Universities



Classification of CSRDE Institutions by Selectivity

In order to derive more meaningful comparisons of retention and graduation rates, the 232 institutions were divided into three subgroups: 51 highly selective, 117 selective and 64 less selective institutions. The classification was based on average admission test scores for the 1996 cohorts. Institutions in the highly selective group had an average enhanced ACT composite scores above 24 or an average SAT composite score higher than 1,100; the selective group, an average ACT score between 21 and 24 or an average SAT score between 990 and 1,100; the less selective group, an average ACT score below 21 or an average SAT score below 990.

On the average, 122,507 first-time freshmen entered the highly selective institutions each year, compared with 177,979 for the selective institutions and 67,944 for the less selective institutions. The percentage distributions by type of institutional selectivity were 34 percent, 48 percent and 18 percent respectively.

Enrollment of Underrepresented Minorities

In addition to lower high school graduation rates and lower college participation rates for the underrepresented minorities, Hauptman and Smith (1994, p.88) noted that

> *"Another concern with current patterns of participation in higher education is that African American and Hispanic students tend to attend certain types of institutions disproportionately. For example, 37 percent of all college student enrollments are in two-year institutions, but 57 percent of all Hispanic students are enrolled in two-year institutions. Similarly, 20 percent of African-American college students are enrolled in historically Black colleges and universities."*

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Eight years later, these statistics showed little change (NCES, 1997, tables 206 and 220). While 39 percent of the 1995 college students were in two-year institutions, 56 percent of the Hispanic students and 43 percent of the black students were enrolled in two-year institutions.

Similar disparity was found in the CSRDE study. The enrollment in less selective institutions consisted of a far higher percentage of the underrepresented minorities. They represented 26 percent of the 1996 first-time freshmen in the less selective institutions but only 11 percent of those in the highly selective and 12 percent in the selective institutions.

Graduation Rates of Underrepresented Minorities and Institutional Selectivity

Consistent with many previous research results, the graduation rates in the CSRDE group were higher for institutions with higher admission test scores. More than 67 percent of the 1989 to 1991 first-time freshmen graduated within six years from the highly selective institutions; the graduation rate decreased to 49 percent for students in the selective and 38 percent for students in the less selective institutions. Similar observations can also be made for almost all of the underrepresented minority groups. The six-year graduation rates for blacks were 52 percent in the highly selective institutions, 36 percent in the selective and 25 percent in the less selective institutions; the respective graduation rates were 55 percent, 38 percent and 25 percent for Hispanics and 43 percent, 27 percent and 28 percent for American Indians (Table 1).

Table 1: Six-Year Graduation Rates by Institutional Selectivity and Race
1989-91 First-time Freshman Cohorts in 232 CSRDE Institutions

Race	Highly Selective	Selective	Less Selective	Total
Blacks	52%	36%	25%	37%
Hispanics	55%	38%	25%	37%
American Indians	43%	27%	28%	31%
Whites	69%	51%	42%	55%
Asians	70%	53%	38%	54%
All Races	67%	49%	38%	53%

Summary of CSRDE Minority Degree Attainment

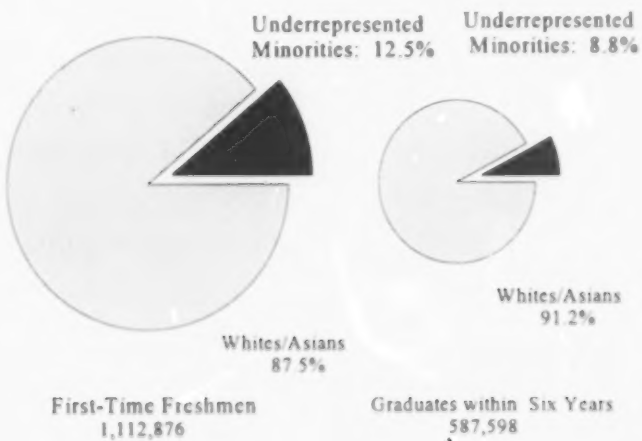
Analysis of retention data for the 1989 to 1996 freshman cohorts in 232 CSRDE institutions reaffirmed many of the historical research findings. First, minority participation in higher education

increased at a faster pace than whites. Second, retention and graduation rates were static over time. In a period of eight years, the spread of first-year retention rates was 1.5 percentage points from a low of 77.3 percent to a high of 78.8 percent. Moreover, this difference decreased as the study progressed toward the later tracking years. The six-year graduation rates over time showed a difference of less than one percentage point, from a low of 52.4 percent to a high of 53.3 percent. Third, the retention and graduation rates were lower for the underrepresented minority groups of blacks, Hispanics and American Indians. The six-year graduation rates showed a difference of more than 18 percentage points between each underrepresented minority subgroup and whites. Fourth, minority enrollment tended to concentrate disproportionately in the less selective institutions. Finally, graduation rates were higher for the more selective groups of institutions. This observation was applicable to almost all racial subgroups.

Implication: Decreasing Minority Representation from Entry to Graduation

Longitudinal data from 232 institutions in the CSRDE study indicated a decrease in minority representation from entry to graduation. Underrepresented minorities constituted 12.5 percent of the 1989-91 new freshman population, yet they accounted for only 8.8 percent of those who graduated within six years. In terms of head count, 139,240 underrepresented minorities entered the CSRDE institutions from 1989 to 1991 and 51,292 graduated within six years (Figure 4). If these under-

Figure 4: 1989-91 Cohorts from Entry to Graduation



represented minorities had graduated at the same rate as whites, the number of graduates would have been 77,139, a difference of 25,847 degrees, or 50 percent, from the 51,292 degrees that were actually awarded to the 1989-91 underrepresented minority freshman cohorts.

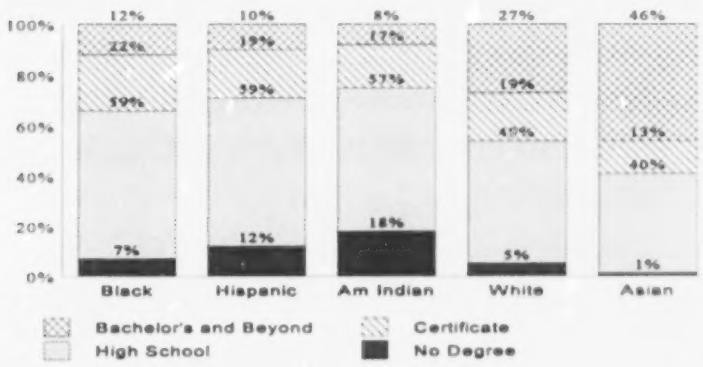
In the absence of national longitudinal data, precise analysis cannot be derived as to the number of degrees that would have been necessary for bringing the degree attainment level of underrepresented minorities to that of whites each year. However, results of the CSRDE study and other national studies of graduation rates (NCAA, 1997), suggested that an improvement of 18 percentage points in underrepresented minority graduation rates would be a necessary first step.

Educational Attainment of Underrepresented Minorities

The representation of blacks, Hispanics and American Indians decreased dramatically as they progressed to higher levels of the education ladder. For example, blacks constituted 14 percent of the 18- to 19-year-old population in 1983, but only 12 percent of the high school graduates and 9 percent of the college students for the same year; their representation further reduced to 5 percent of the baccalaureate degree recipients in 1988-89 (Hill, 1992) and only 3 percent of the doctoral degrees in 1990-91 (NCES, 1993).

An NCES survey (NCES, 1997, table 307), *High School and Beyond, Educational Attainment of High School Sophomores by 1992*, reported that significant disparity existed in educational attainment by race. The survey results showed that of the 1980 high school sophomores, 12 percent of blacks, 10 percent of Hispanics and 8 percent of American Indians completed a bachelor's degree or more, compared with 27 percent of the whites and 46 percent of the Asians (Figure 5).

Figure 5: Educational Attainment by Race
1980 High School Sophomores by 1992



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Precollege Academic Preparedness of Underrepresented Minorities

The CSRDE study found that academic preparedness was generally lower for the underrepresented minorities than their white peers. Consequently, a disproportionately larger percentage of the underrepresented minorities attended the less selective institutions with typically lower graduation rates. Even for those who attended the more selective institutions, their average admissions test scores were below the averages for whites.

Astin noted that "Although a number of other entering freshman characteristics add significantly to the prediction of retention, these four variables (a student's high school grades, admissions test scores, sex and race) account for the bulk of the variance in retention. (Astin, 1993, p.2)." The following analysis of precollege educational statistics of underrepresented minorities offers a necessary context for understanding college retention and graduation rates of minorities.

High School Completion Rates

According to a report of the U. S. Census Bureau, blacks and Hispanics have narrowed the gap in high school completion in the last few decades. In 1965, only 27 percent of blacks 25 years or older had completed high school, compared with 51 percent for whites. By 1993, the high school completion rates were 70 percent for blacks 25 years or older compared with 82 percent for whites. While data for Hispanics were not available until much later, the report indicated that among Hispanics 25 years or older, 53 percent had completed high school in 1993, compared with 37 percent in 1974 (Adams, 1998).

Despite the substantial improvement in high school completion rates, dropout rates remain to be higher for the underrepresented minorities. The 1996 high school dropout rates of persons 16 to 24 years old were 13 percent for blacks and 29 percent for Hispanics, compared with 7 percent for whites (NCES, 1997, Table 103).

Proficiency in Reading, Mathematics and Science

A series of reports on the test scores from the National Assessment of Educational Progress (NAEP) evaluated the academic performance levels of students in public schools (NCES, 1997). These reports compared the proficiency levels of 9-, 13- and 17-year-olds in reading, mathematics, and science over a period of more than 20 years. In general, the reports showed that blacks and Hispanics had made some improvement over the last 20 years. However, as a group, their academic

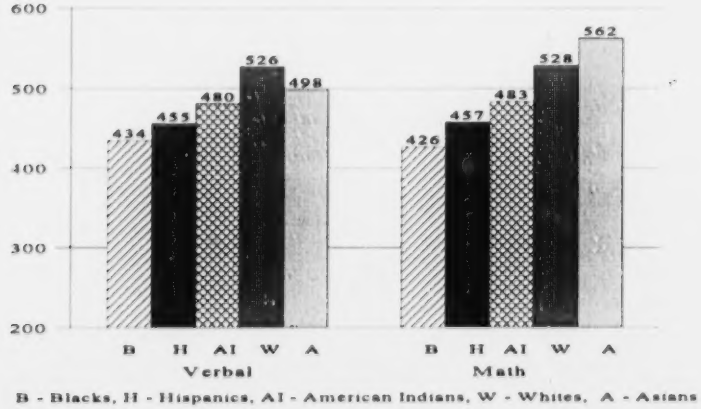
proficiency continued to be below that of whites. Because of the difficulty in deriving a large enough sample for American Indians, their data were not available in the reports compiled by the U.S. Bureau of the Census, Current Population Survey.

According to the NAEP report, the percentages of students at or above certain levels of proficiency in reading, mathematics and science were consistently lower for underrepresented minorities. For example, the reading test scores indicated that the percentages of 13-year-olds at the level of being "able to search for specific information, interrelate ideas, and make generalization about literature, science, and social studies materials" were 35 percent for blacks and 40 percent for Hispanics, compared with 70 percent for whites. The NAEP mathematics test scores for 17-year-olds placed 31 percent of blacks and 40 percent of Hispanics at the level of "moderately complex procedures and reasoning," compared with 69 percent of whites. Finally, the percentages of 17-year-olds at the level of "analyze scientific procedure" were 17 percent for blacks and 24 percent for Hispanics, compared 59 percent for whites (NCES, 1997, tables 110, 119 and 124).

College Admissions Test Scores

The differences in high school academic proficiency of students by race were echoed in the subsequent national college admissions test results (SAT, 1998; ACT, 1998). The 1998 average SAT verbal test scores were 434 for blacks, 452-461 for Hispanics, 480 for American Indians, compared with 526 for whites and 498 for Asians; the mean mathematics test scores were 426 for blacks, 447-466 for Hispanics, 483 for American Indians, compared with 528 for whites and 562 for

Figure 6: 1998 SAT Scores by Race



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Asians (Figure 6). ACT test scores for the 1998 freshman group reflected similar disparity. The 1998 national ACT composite score averages were 17.1 for blacks, 18.5 for Hispanics and 19.0 for American Indians, compared with 21.7 for whites and 21.8 for Asians.

College Enrollment Rates

Although the overall college enrollment trend reflected a more educated population, significant differences by race continue to exist. In 1977, the college enrollment rates as a percent of 18- to 24-year-olds were 21 percent for blacks and 17 percent for Hispanics, compared with 27 percent for whites; in 1996, the percentages were 27 percent for blacks and 20 percent for Hispanics, compared with 40 percent for whites (NCES, 1997, table 186). The differences in high school completion, college enrollment and college graduation rates culminated into a large gap between minorities and whites in baccalaureate degree completion. Among the 25-to-29-year-old group in 1993, 14 percent of the blacks and 11 percent of the Hispanics completed a bachelor's degree or higher, compared with 29 percent of the whites and 51 percent of the Asians (Day and Curry, 1997).

Conclusion

When comparing educational attainment, there may be a tendency to focus solely on the racial differences in today's performance statistics. Much more, however, can be learned from reviewing current data in a historical context. Despite existing disparities, educational statistics in the last 50 years indicated that blacks and Hispanics had made impressive progress in high school enrollment, high school completion and college attendance. "In 1940, only 8 percent of Blacks 25 years old and over had completed high school, compared with 26 percent for Whites. . . By 1993, 70 percent of Blacks 25 years old and over had completed high school, compared with 82 percent of Whites." Similar progress was made by Hispanics. "Among Hispanics 25 years old and over in 1993, 53 percent had completed high school, up from 37 percent in 1974." (Adams, 1998).

Likewise, minority college enrollment had increased substantially. From 1972 to 1996, the college enrollment rates of 18- to 24-year-olds increased from 18 percent to 27 percent for blacks, from 13 percent to 20 percent for Hispanics, compared with an overall increase from 26 percent to 36 percent. The improvement was even more impressive over a period of 50 years. Before the 1954 Supreme Court decision on "Brown V. Board of Education," most of the public institutions were simply not accessible to blacks. Today, 47 percent of the blacks 25 to 29 years of age had attended

colleges and more than 14 percent of these young adults had completed a college education (Day and Curry, 1997).

The progress in high school completion and college attendance of minorities, however, was not matched by an equal gain in their academic preparedness for college. Consequently, minority college graduation rates continued to be low. Without adequate preparation, it is unlikely that individuals can succeed in college. In reviewing the post-secondary remedial work and student success reported in *The Condition of Education, 1996*, Adelman (1997) noted that a larger proportion of minorities were required to take remedial reading in college. Moreover, "Sixty-five per cent of those people (who took remedial reading) found themselves in at least three other remedial courses." and "only 24 per cent of those who took three or more remedial courses had earned a bachelor's." These facts prompted the assertion that ". . . we cannot continue to let high school graduates believe that they have a good chance of earning a college degree if they leave high school with poor reading skills."

"It takes 10 years to establish a tree; 100 years, a person." This Chinese proverb captures the essence of education. Improving educational attainment takes time; indeed, it takes generations. Among today's college-aged black youth, only 8 percent of their grandparents and 27 percent of their parents had completed a high school education. Twenty years from now, more than 70 percent of the black college-aged students will have parents who are high school graduates and more than 14 percent of them will have parents who are college graduates. Educational statistics in the last five decades provided strong evidences that underrepesented minority children in the next century will be guided by far better-educated parents.

Terenzini et. al. (1996) in a study of the first-generation college students concluded that,

> *"In both precollege characteristics and their experiences during their first year in college, first-generation students differ in many educationally important ways from the students higher education has traditionally served. Because of these different characteristics and experiences, they are also a group at-risk. They are a group clearly in need of greater research and administrative attention if they are to survive and succeed in college."*

While past educational statistics suggest a progressively brighter future for minority children, the same statistics also caution that for at least four to five more decades, a large portion of the minorities will most likely continue to be first-generation students. Their precollege academic preparedness, parental education and socioeconomic status will also likely lag behind the majority of their peers. Therefore, it will be an important challenge and responsibility for colleges and universities to help underrepresented minority students bridge these gaps so that they can succeed.

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